

401 KAR 5:090. Control of water pollution from oil and gas facilities.

RELATES TO: KRS Chapters 151, 224

STATUTORY AUTHORITY: KRS 151.125, 224.10-100, 224.70-110

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100 requires that the cabinet promulgate administrative regulations pertaining to the issuance of permits and the prevention, abatement and control of water pollution. This administrative regulation provides for preventing, abating, and controlling water pollution from oil and gas facilities.

Section 1. Applicability. (1) The provisions of this administrative regulation shall apply to the owner or operator of any facility which causes or is capable of causing produced water.

(2) Owners or operators of dry gas wells as defined in Section 2(8) of this administrative regulation shall be exempt from the requirements of this administrative regulation except under Sections 4, 5(2)(b), and 8(3) of this administrative regulation.

Section 2. Definitions. The following definitions describe terms used in this administrative regulation. Terms not defined below shall have the meaning given to them by KRS Chapters 151 and 224 or the meaning attributed by common use.

(1) "Area of review" means a fixed radius around the facility of not less than one-fourth (1/4) mile.

(2) "Barrel" means forty-two (42) U.S. gallons.

(3) "Cabinet" means the Environmental and Public Protection Cabinet.

(4) "Director" means the secretary of the cabinet or an authorized representative. For purposes of permit issuance decisions, the director is the Director of the Division of Water.

(5) "Disposal well" means a borehole drilled or proposed to be drilled, or a well converted to be used, for the sole purpose of disposing of any water, gas, produced water or other fluid by injection or other method into a subsurface zone.

(6) "Division" means Division of Water, Environmental and Public Protection Cabinet.

(7) "Drilling pit" means an earthen excavation for the collection of fluids associated with the drilling, construction, completion, acidizing, or fracturing of an oil or gas well.

(8) "Dry gas well" means a gas well producing one (1) barrel or less of produced water at maximum production conditions during a given twenty-four (24) hour period.

(9) "Enhanced recovery well" means a well used for the injection of fluids to improve or maintain reservoir productivity.

(10) "Facility" means any well, tank, pit, structure, appurtenance or improvement used in the exploration, drilling, or production of oil or gas or used for treating, storing or disposing of produced water.

(11) "Gas" means all natural gas, including casinghead gas, and all other hydrocarbons not defined herein as oil.

(12) "Geologically isolated" means a zone separated from drinking water aquifers and free of known open faults or fractures and free of any unprotected wells within the area of review.

(13) "Holding pit" means an earthen excavated depression designed to receive and store produced water at a facility.

(14) "Kentucky Pollutant Discharge Elimination System (KPDES)" means the Kentucky program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits to discharge and imposing and enforcing pretreatment requirements. The KPDES regulations are 401 KAR 5:050 to 5:085.

(15) "Oil" means natural crude oil or petroleum and other hydrocarbons, regardless of specific gravity, which are produced at the well in liquid form and which are not the result of condensation of gas after it leaves the underground reservoir.

(16) "Operate" means any act relating to the construction, operation or maintenance of any facility.

(17) "Operator" means any person who operates any facility.

(18) "Owner" means any person who possesses any interest in:

(a) The right to develop, operate, or produce oil or gas; or

(b) Any facility.

(19) "Person" means as defined in [KRS 224.01-010\(12\)](#).

(20) "Pollutant" means as defined in [KRS 224.01-010\(28\)](#).

(21) "Produced water" means any and all water and pollutants and combination thereof resulting, obtained or produced from the exploration, drilling, or production of oil or gas.

(22) "Register" means to file forms with the division which contain information as to oil and gas well geographic location, production, produced water production, methods used for treating, storing or disposing of produced water, and other information deemed necessary by the division.

(23) "Stripper well" means any oil well producing ten (10) barrels or less per day of oil.

(24) "Tank battery" means an installation where oil is collected from wellheads and separated from produced water.

(25) "Total dissolved solids" means the total dissolved (filtrable) solids as determined by use of the method specified in [40 CFR Part 136](#).

(26) "Treatment lagoon" or "effluent lagoon," as used in [401 KAR 5:029](#), Section 1(1)(bb) and as applied to facilities subject to this administrative regulation, means a secondary recovery or water-flood impoundment on which on-site construction commenced before May 19, 1980, owned or operated by a person eligible to receive a KPDES permit for a discharge from that impoundment, if used for the purpose of diluting produced water, and if the owner or operator has received prior approval from the cabinet of its request for designation as such.

(27) "Waters of the Commonwealth" means waters of the Commonwealth as defined in [KRS 224.01-010\(26\)](#).

(28) "Well" means a borehole drilled, or proposed to be drilled for the purpose of producing gas or oil or one through which gas or oil is being produced, or a borehole drilled or proposed to be drilled for the purpose of injecting any water, gas, produced water or other fluid therein or one into which any water, gas, produced water or other fluid is being injected.

(29) "Zone" means a subsurface layer or stratum capable of producing or receiving fluids.

Section 3. Prohibition. No person shall construct, modify, or operate a facility in violation of state or federal water quality standards or other applicable standards in this administrative regulation.

Section 4. Registration. (1) All operators shall register their facilities with the division using a form approved by the director containing name of operation, location of lease, oil and produced water production rates, method of produced water disposal, and other necessary information. The operator shall register each tank battery with associated wells, pits, and other similar structures as one (1) facility. Those facilities not associated with a tank battery shall be registered individually.

(2) Operators who previously registered their facilities with the division on the form entitled "Division of Water, Crude Oil Producers Brine Disposal Registration Form" shall not be required to register under this section unless there has been a change in operators or in the reported quantity of produced water, or a modification to the facility has occurred which affects the operations used for treating, storing or disposing of produced water.

(3) Operators shall post waterproof signs, at each facility, of a size and type approved by the director. The signs shall identify the operator's name, address, permit and registration number, phone number, and other information required by the director.

(4) New facilities are required to register with the division within sixty (60) days after the facility begins producing oil and/or gas.

(5) Dry gas wells are exempted from the registration requirements of this section, unless not registered with the Kentucky Department of Mines and Minerals.

Section 5. Produced Water Disposal. Produced water shall be disposed into an enhanced recovery well, a disposal well permitted under Section 11(3) of this administrative regulation, a well permitted under the [40 CFR 146](#) underground injection control program (this must be obtained in addition to a Section 11(3) disposal well authorization, if [40 CFR 146](#) requirements apply), by a surface discharge permitted under Section 8 of this administrative regulation, by evaporation, by reverse osmosis, or by any other method first approved by the cabinet, provided that no such method approved by the cabinet will violate water quality standards or other KPDES requirements as applicable. A KPDES permit is not required for a point source discharge meeting the exclusion of [401 KAR 5:055](#), Section 1(2)(h), as long as there is no surface water point source discharge.

Section 6. Disposal of Produced Water Off the Facility. (1) No person shall transport produced water away from a tank battery to any location other than a cabinet-permitted disposal system or an individual Underground Injection Control (UIC) permitted site, or a disposal system in another state.

(2) No operator shall authorize or allow the transportation of produced water away from a facility where it is produced unless such operator has first submitted the following information to the director and obtained approval:

- (a) Operator's name, mailing address, and telephone number.
- (b) Transporter's name, mailing address, telephone number.
- (c) Name of disposer, mailing address, telephone number, disposal site, and permit number.
- (d) Vehicle identification information, including license number and vehicle description.
- (e) Quantity of produced water to be transported.

(3) The operator of a disposal well may receive produced water from other facilities in accordance with the notification procedures of subsection (2) of this section.

(4) Spills during transfer of produced water shall be reported in accordance with [401 KAR 5:015](#).

Section 7. Approval Requirements for Continuation of Existing Facilities. (1) Applicability. The provisions of this section shall apply to operators of facilities in existence prior to the effective date of this administrative regulation.

(2) Continuation requirements. Operators may continue to operate existing facilities for a period not to exceed one (1) year from the date of the submittal of a compliance plan provided all the following provisions are met:

(a) A written request to continue operating existing facilities is submitted to the director. This request shall include a detailed description of existing operations for treating, storing or disposing of produced water.

(b) A plan is submitted to the director which proposes a schedule and outlines the procedures for meeting the requirements of this and other applicable administrative regulations.

(c) Both the written request and plan shall be submitted to the director by June 1, 1984.

(d) Approval for continuation of operation of existing facilities has been obtained from the director pursuant to subsection (3) of this section and the operator has on display at the facility the division's approval identification number.

(3) Approval procedures. After receiving the written request and plan specified in subsection (2) of this section, the director will:

- (a) Review the plan and request any additional information from the operator, if needed, within twenty (20) working days of receipt of the plan;
- (b) Develop a compliance schedule for each facility or contiguous facility operation; and
- (c) Issue a written approval to the operator containing the compliance schedule and an identification number within forty (40) working days after the plan is deemed complete.
- (4) Nothing in this section shall be construed to authorize any discharge from any facility except pursuant to Section 8 of this administrative regulation.

Section 8. Surface Discharges of Produced Water. (1) The provisions of 401 KAR [5:026](#), [5:029](#), [5:031](#), and 5:050 through 5:085, inclusive, shall apply according to their terms to the owner or operator of any facility which causes or is capable of causing produced water. The provisions of this section apply to the operator of any facility discharging produced water into surface water of the Commonwealth.

(2) A KPDES permit, issued pursuant to 401 KAR 5:050 through 5:085, inclusive, is required prior to beginning a discharge of pollutants into waters of the Commonwealth. A KPDES permit will include effluent limitations developed pursuant to [401 KAR 5:065](#), Sections 2 and 4. A permit may contain a zero discharge condition or may be denied, where authorized by the KPDES regulations.

(3) For purposes of setting KPDES permit limitations, the chloride criterion of 600 mg/l, set forth in [401 KAR 5:031](#), Section 4, Table I, shall be utilized as a thirty (30) day average.

(4) An owner or operator applying for a KPDES permit may request an exception to the water quality criteria of [401 KAR 5:031](#), Sections 4 through 7. Applications for the exception shall be processed by the cabinet as a part of the KPDES application, if the applicant applies for both at the same time. For exception to water quality criteria applications which are received by the cabinet at other times, application for the exception need not be processed by the cabinet as part of the KPDES application. In either case, the review procedure of [401 KAR 5:075](#) applies. A public hearing, after public notice, shall be conducted prior to granting any exception to criteria request.

(5) A KPDES applicant may combine outfalls on one (1) application, if all outfalls are owned or operated by the applicant, and if the outfalls discharge to a common watershed and are similar in effluent quality and environmental impact. If the cabinet disapproves the combination the applicant may seek review of that decision pursuant to [KRS 224.10-420\(2\)](#).

(6) Notwithstanding 401 KAR 5:085, Section 4, applicants shall pay a base KPDES application fee of \$350. An additional fee may be assessed by the cabinet for combined outfalls, if the time required to process the application exceeds that necessary for processing a single-outfall application. Exceptions to criteria applications submitted pursuant to subsection (4) of this section shall pay a water quality variance fee pursuant to 401 KAR 5:085, Section 6.

Section 9. Holding Pits. (1) Applicability. The provisions of this section apply to the operators of holding pits which are constructed after the effective date of this administrative regulation, and to the operators of existing pits that are incapable of demonstrating pursuant to Section 7 of this administrative regulation that those pits do not contaminate surface or groundwaters.

(2) Exemption. Spill Prevention Control and Countermeasure (SPCC) pits developed pursuant to Section 13 of this administrative regulation are exempted from the requirements of this section.

(3) General requirements. Operators of holding pits shall supplement the registration form required under Section 4 of this administrative regulation with information regarding the construction and operation of any holding pit and any other information deemed necessary by the director. This information shall be submitted to the director on forms provided by the director not less than thirty (30) days prior to the date the permit is desired.

(4) Permits. The director will issue permits to operators of holding pits to contain any condition necessary to satisfy any requirement of this administrative regulation notwithstanding any less stringent provision of the law to the contrary.

(5) Conditions applicable to holding pits.

(a) Construction requirements.

1. Holding pits shall be constructed in accordance with [KRS Chapter 151](#) and Division of Waste Management administrative regulation 401 KAR 30:030.

2. Holding pits shall be constructed with an impermeable synthetic liner having a minimum thickness of twenty (20) mils or equivalent as approved by the director.

3. Holding pits shall be designed with a continuous bermed area at least two (2) feet above ground level.

(b) Operating requirements.

1. No holding pit shall discharge produced water into waters of the Commonwealth except in accordance with a KPDES permit, nor shall any holding pit be used for the ultimate disposal of produced waters.

2. All surface water shall be diverted away from the holding pit so that the holding pit shall have no additional drainage area.

3. Waste shall be removed from the holding pit to maintain a one (1) foot minimum freeboard. Disposal of wastes shall be in accordance with Kentucky laws and administrative regulations.

(c) Closure requirements.

1. Except as provided in subsection (2) of this section, any holding pit no longer used for the purpose for which it was intended shall be backfilled, graded, and revegetated. The vegetative cover shall be capable of stabilizing the soil surface from erosion. This closure shall be conducted within the time period specified in the permit issued pursuant to subsection (3) of this section.

2. A holding pit may remain as a permanent structure or be used for other purposes upon written approval from the director.

3. Disposal of all wastes shall be in accordance with Kentucky laws and administrative regulations.

(6) A tank, of a size and type approved by the director, may be used in lieu of a holding pit.

Section 10. Drilling Pits. Facilities shall be constructed for the collection of fluids, other than produced water, associated with well construction, acidizing and chemically enhanced recovery in areas where waters of the Commonwealth may be affected. If the life of the facilities is longer than thirty (30) days following completion of exploration or drilling activities they shall meet all requirements of Section 9 of this administrative regulation. Upon written request, the director may, with good cause, extend the allowable life of the facility to a maximum ninety (90) days if the extension will not cause or contribute to contamination of waters of the Commonwealth. The closure requirements for these facilities shall be as specified in Section 9(5)(c) of this administrative regulation.

Section 11. Disposal Wells. (1) Applicability. The provisions of this section apply to operators of disposal wells until issuance of an individual Underground Injection Control (UIC) permit by the agency having jurisdiction under the Safe Drinking Water Act (42 USC Section 300f, et seq.).

(2) General requirements. Operators of disposal wells shall supplement the registration form required under Section 4 of this administrative regulation with information regarding the construction and operation of any disposal well, a plan showing the location of all existing and abandoned wells within the area of review and any other information deemed necessary by the director. This information shall be submitted to the director on forms provided by the division not less than thirty (30) days prior to the date the permit is desired.

(3) Permits. The director will issue permits to operators of disposal wells to contain any condition necessary to satisfy any requirement of this administrative regulation notwithstanding any less stringent provision of law to the contrary.

(4) Conditions applicable to all disposal wells. Disposal wells shall reinject all produced waters into a formation which is geologically isolated and contains more than 10,000 mg/l of total

dissolved solids or meets the criteria of an exempted aquifer as set forth in 40 CFR 146.4. If a formation is unacceptable for injection solely because abandoned and improperly plugged boreholes have established communication between it and other strata, the operator is obligated to find and properly plug these boreholes within the area of review established by the division. Disposal well failure or shutdown shall be reported immediately to the director. All plugging, casing, and operation of wells shall be done in accordance with Department of Mines and Minerals administrative regulations 805 KAR [1:020](#), [1:060](#), and [1:070](#).

Section 12. Inspection and Enforcement. The cabinet may inspect any facility pursuant to [KRS 224.10-100](#) and shall provide written notification of any violation to the operator. Following the determination of any violation of any applicable provision of law, the cabinet may initiate any enforcement action including an order to abate and alleviate such condition or activity pursuant to [KRS 224.10-410](#) and any other applicable remedy including civil penalties pursuant to [KRS 224.99-010](#).

Section 13. Spills and Leaks. (1) General provision. Operators of facilities shall develop and implement Spill Prevention Control and Countermeasure (SPCC) plans when required under [40 CFR Part 112](#).

(2) Reporting.

(a) Operators shall report to the division all spills and bypasses of oil and produced water from facilities in accordance with [401 KAR 5:015](#).

(b) Operators shall report all spills, discharges and bypasses of oil from a facility in accordance with the procedures in [40 CFR Part 110](#).

Section 14. Permit Fees. (1) The provisions of this section shall apply to the operator of each facility required to have a permit by this administrative regulation except for any facility permitted under a general permit.

(a) Every operator who is issued a permit under the provisions of this administrative regulation shall be assessed a permit fee in accordance with the provisions set forth in subsection (2) of this section.

(b) Upon making the determination that a permit can be issued under this administrative regulation, the director will notify upon receipt of the total amount of the permit fee. Failure by the applicant to pay the assessed permit fee on or before the due date may result in the denial of the permit.

(2) The fee for each type of permit is listed below:

Facility and Type of Permit	Permit Fee
Construction of "holding pit"	\$100
Operation of existing "disposal well"	\$125
Construction of "disposal well"	\$200

(3) In addition to the requirements of this administrative regulation, facilities issued KPDES permits will be assessed a fee pursuant to 401 KAR 5:085.

(4) Duplicate permit fee. Upon application for the issuance of a duplicate permit for activities covered under this administrative regulation, the duplicate permit shall be issued by the cabinet upon receipt of a fifteen (15) dollar permit fee.

(5) Terms of payment.

(a) Payment of a permit fee as provided for by this section will be made within thirty (30) days of the billing date.

(b) Certified checks or money orders, if used, shall be payable to the Kentucky State Treasurer. (9 Ky.R. 1070; Am. 10 Ky.R. 35; 336; eff. 8-3-83; 345; 765; eff. 1-4-84; 1084; eff. 5-1-84; 13 Ky.R. 44; 505; eff. 9-4-86; TAm eff. 8-9-2007.)